ABSTRACT

Study Of Micro leakage Of Two Temporary Restorative Materials Namely Coltosol And Clip-F After Post Space Preparation, An In Vitro Study

Introduction :

Teeth play an important role in masticatory functions and facial aesthetics. Loss of entire crown or part of it, can cause disturbance in both aspects. Therefore any kind of alteration in size, shape, structure or number of teeth should be restored with appropriate prosthesis. Endodontically treated teeth often lack sufficient support for a permanent restoration, where additional retention through the root canal is highly recommended. Traditionally, a post and core has been used for this purpose. So after post space preparation, placement of protective barrier is necessary to prevent contamination the remaining gutta percha and empty space of coronal part of root canal. Therefore temporary restorative materials recommended for sealing the canals between appointments. Especially after post space preparation to prevent marginal leakage and penetration of saliva and microorganism into the root canals. So the aim of this study was to evaluate the integrity of the coronal seal of coltosol and comparing it with Clip-F after post space preparation using S.sanguis as a microbial tracer and also using Methylene blue to observe dye penetration.

Material and Methods:

In this applicable study 60 extracted single canal teeth undergone root canal treatment and after post space preparation and disinfection the canal ,the sterile cotton placed and restored with equal number of temporary fillings namely Clip-F and Coltosol.then teeth are transferred into Brain Heart Infusion Broth (BHIB) medium which is already contaminated with S.sanguinis bacteria and methylene blue dye and after 24 hours ,48 hours and 7 days kept into the incubator and after removing the temporary filling which is done in sterile condition ,all the cottons are observed carefully for dye absorption and then placed into the BHIB sterile medium and again kept for 24 hours into the incubator. After that the clarity of solutions are observed in which the clear solution is non-contaminated and blurred solution is contaminated.Finally all findings analysed with SPSS Software.

Results:
In the present study out of 18 teeth in first 24 hours including 9 teeth restored with Coltosol and 9 teeth restored with Clip-F, 4 teeth were un contaminated and 5 teeth were contaminated in both group. And out of 20 teeth in 48 hours study in which 10 of them were restored with Clip-F 5 of them were un contaminated and remaining 5 were contaminated; and out of 10 teeth restored with Coltosol, 3 teeth were un contaminated and 7 teeth were contaminated .in 7 day study, out of 20 teeth in which 10 teeth were restored with Clip-F, 3 teeth were un contaminated and 7 teeth were contaminated. And out of 10 teeth restored with Coltosol, 2 teeth were un contaminated and 8 teeth were contaminated .and there was no dye penetration in none of specimens.

Conclusion:
The sealing ability of both materials were almost closed to each other with negligible difference in which the Clip-F showed better sealing ability in 48 hours and 7 days than Coltosol.

Key Words:
Dye penetration, Microbial leakage, Temporary restoration